Remarks

For the reasons stated herein, Applicants respectfully request that the Examiner reconsider and withdraw the rejection set forth in the Office Action. Claims 1, 4-12, 15-34, 37-46, 51-60 & 63-72 remain pending.

Initially, Applicants gratefully acknowledge the indication of allowance of claims 8-11, 22, 30-33, 44, 56-59 & 70. This paper is directed to the remaining pending claims still at issue.

By this Amendment, independent claims 1, 18, 25, 40, 55 & 66 are each amended to specify that the ordered list is a priority ordered list, that the creating is performed by a distributed configuration manager of the computing environment, and that the distributed configuration manager provides the ordered list to the client node, which then employs the ordered list to reach the service. In accordance with the independent claims, the priority ordered list is ordered to balance use of the plurality of service addresses among the client node and at least one other client node, and is ordered specifically for the client node based on one or more characteristics of that client node.

Support for the amendments can be found, for example, in canceled dependent claims 13, 14, 35, 36, 61 & 62. These claims, as well as claims 47-50, are canceled herein without prejudice and are believed well covered by the remaining pending claims. Further support for the amended language can be found in FIGS. 22-24, as well as the supporting discussion thereof at page 61, line 26 – page 67, line 4 of the application. No new matter is added to the application by any amendment presented.

In the Office Action, claims 1, 4-7, 12-21, 23-29, 34-43, 45-55, 60-69 & 71-72 were rejected under 35 U.S.C. §103(a) as being unpatentable over Ballard (U.S. Patent No. 6,078,960; hereinafter Ballard) in view of Colby et al. (U.S. Patent No. 6,006,264 A; hereinafter Colby). This rejection is respectfully, but most strenuously, traversed to any extent deemed applicable to the claims presented herewith, and reconsideration and withdrawal thereof is requested.

An "obviousness" determination requires an evaluation of whether the prior art taken as a whole would suggest the claimed invention taken as a whole to one of ordinary skill in the art. In evaluating claimed subject matter as a whole, the Federal Circuit has expressly mandated that functional claim language be considered in evaluating a claim relative to the prior art. Applicants respectfully submit that the application of these standards to the independent claims at issue leads to the conclusion that the recited subject matter would not have been obvious to one of ordinary skill in the art based on the applied patents. Specifically, Applicants request reconsideration and withdrawal of the obviousness rejection on the following grounds: (1) the patents themselves lack any teaching, suggestion or incentive for their further modification as necessary to achieve Applicants' now-recited invention; and (2) the teachings of Colby are not combinable with those of Ballard as proposed in the Office Action.

By way of example, Applicants claim a method of providing an ordered list of service addresses (see claim 1). This method includes: creating *by a distributed configuration manager of a computing environment a priority ordered list of service addresses* to be used by a client node of the computing environment to reach a service of the computing environment, the creating using a predefined equation to order a plurality of service addresses having the same ordering criteria, the predefined equation balancing use of the plurality of service addresses among the client node and at least one other client node of the computing environment; providing the ordered list created by the distributed configuration manager to the client node; and using the ordered list by the client node to reach the service, wherein the ordered list is ordered specifically for the client node based on one or more characteristics of the client node.

Thus, in Applicants' claimed invention, a priority ordered list of service addresses is created by a distributed configuration manager and then provided to the client node for use by the client node. This priority ordered list is created in such a way as to balance the use of service addresses among different client nodes for service addresses having the same ordering criteria. Further, the ordered list of service addresses is created for a particular client node and is specifically ordered for that client node based on one more characteristics of that client node. Applicants respectfully submit that this facility is not taught or suggested by Ballard and Colby, either alone or in combination.

Ballard describes client-side load-balancing in a client server network. In Ballard, load balancing is achieved at the client-side, rather than the server-side of a client-server network. Each client computer regularly receives a load balance list, enumerating respective addresses of multiple server computers. Each client computer executes a server selection function which determines the average load for each server in the list. In the event of a server computer failure, a system administrator can remove the server computer from the load balance list and reapportion the load. The client computer's list then is updated when the list is received during subsequent access. In the event a client computer determines that a server is non-responsive, such server is removed from the load balance list for the client computer which made such determination. (See Abstract of Ballard.)

Initially, Applicants respectfully submit that Ballard does not describe or suggest the existence of a distributed configuration manager within the computing environment which creates a priority ordered list of service addresses *per se*, let alone an ordered list of service addresses qualified as recited in their independent claims. Still further, there is no teaching or suggestion in Ballard that this created ordered list is then provided to the client node for use by the client node to reach the service. In Ballard, each client node receives the same load balance list (see column 2, lines 1 & 2 of Ballard). This load balance list is not ordered when the client computer receives the list. Rather, Ballard teaches a process algorithm for then ordering the list at the client node. This required functionality of Ballard is opposite to that recited by Applicants. In Applicants' invention, the distributed configuration manager of the computing environment creates the priority ordered list of service addresses, having the characterizations recited in the independent claims, and then provides the ordered list to the client node, which then uses the ordered list to reach the service. In Applicants' approach, the client node is alleviated from any functionality or processing requirements to create an ordered list in deciding how to reach a given service. In Applicants' approach, the client node simply uses the provided ordered list of service addresses.

Still further, Applicants' recite that this priority ordered list provided by the distributed configuration manager to the client node is ordered employing a predefined equation which balances use of service addresses among the client node and at least one other client node when a plurality of service addresses have the same ordering criterion, and still further, that the ordered

list provided by the distributed configuration manager to the client node is ordered specifically for that client node based on one or more characteristics of the client node. Clearly, no similar priority ordered list is created having these qualifications by a distributed configuration manager and then provided to a client node for use by the client node in Ballard. The list provided to the client node in Ballard is a load balance list, and the same list is provided to each client node. Ballard then provides a discovery facility within the client node for ordering the list.

Still further, the resultant list in Ballard does not have the same qualities as that recited by Applicants in their independent claims. Specifically, as noted in the Office Action, Ballard does not teach that the resultant ordered list produced by the client node is ordered specifically for that client node based on one or more characteristics of that client node. Applicants agree with this conclusion. However, the Office Action then asserts that Colby teaches this aspect of Applicants' claimed invention in such a way that would have led one of ordinary skill in the art to combine the teachings of Colby with that of Ballard. This is conclusion is respectfully, but most strenuously, traversed.

Colby discloses a method and system for directing a flow between a client and a server. Specifically, a content-aware flow switch intercepts a client content request in an IP network, and transparently directs the content request to a best-fit server. The best-fit server is chosen based on the type of content requested, the quality of the service requirements implied by the content request, the degree of load on available servers, network congestion information, and the proximity of the client to available servers. The flow switch detects client-server flows based on the arrival of TCP SYNs and/or HTTP GETs from the client. The flow switch implicitly deduces the quality of service requirements of a flow based on the contents of the flow. The flow switch also provides the functionality of multiple physical web servers on a single web server in a way that is transparent to the client, through the use of virtual web hosts and flow pipes. (See Abstract of Colby.)

As expressly taught by Colby, "the entire process of server selection is transparent to the client." (See column 2, lines 57 & 58.) In view of this, Applicants respectfully submit that one of ordinary skill in the art would not have read the teachings of Colby in the manner as asserted in the Office Action and combine such teachings with Ballard. Ballard clearly teaches

functionality for client-side, load-balancing (see title thereof). To extrapolate an ordering concept from Colby, which operates totally transparent to the client node, and then apply that teaching to the client node, is believed expressly contrary to the teachings of both patents.

Further, Applicants respectfully submit that Colby does not teach or suggest the creation of a priority ordered list such as recited by Applicants in the independent claims. In Colby, the switching facility transparently redirects requests from one server to another server. Thus, Applicants respectfully submit that one of ordinary skill in the art would not read the teachings thereof as asserted in the Office Action as resulting in an ordered list created by a distributed configuration manager which is specifically ordered for the client node based on one or more characteristics of the client node. In Applicants' recited invention, the priority ordered list facility is implemented at the distributed configuration manager and is simply provided to the client node, which then uses the ordered list to reach the service. No similar functionality is taught by Colby, alone or in combination with Ballard. Because the teachings of Colby are transparent to the client node, it is respectfully submitted that those teachings could not be executed at the client node, in a system such as taught by Ballard, and therefore, the teachings are in conflict with the underlying purpose of Ballard and against the combination asserted in the Office Action.
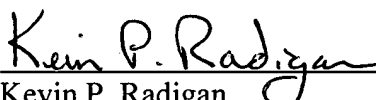
The consistent criterion for the determination of obviousness is whether the art would have suggested to one of ordinary skill in the art that the claimed invention should be carried out and would have a reasonable likelihood of success, viewed in light of the prior art. The suggestion and the expectation of success must be found in the prior art, not in the Applicants' disclosure. It is respectfully submitted that as amended, there is clearly no suggestion and expectation of success for Applicants' recited facility found in Ballard and Colby when combined as proposed in the Office Action.

In summary, Applicants respectfully traverse the rejection to any extent deemed applicable to the amended independent claims based on a failure of the combined documents to disclose Applicants' claimed invention; and that the basis for the combination of documents set forth in the Office Action is deficient since the documents clearly teach away from such a combination as proposed.

For at least the above reasons, Applicants respectfully request reconsideration and withdrawal of the obviousness rejection to the independent claims at issue based upon the teachings of Ballard and Colby. The dependent claims are believed allowable for the same reasons as the independent claims, as well as for their own additional characterizations.

If a telephone conference would be of assistance in advancing prosecution of the subject application, Applicants' undersigned attorney invites the Examiner to telephone him at the number provided.

Respectfully submitted,

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